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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Appl. No. : 10/699,308
Applicant(s) : Wright et al.
Filed : October 31, 2003
T.C./A.U. : 1751
Examiner : Amina S. Khan
Title : Non-Aqueous Washing
Machine & Methods
Docket No. : US20030459

I hereby certify that this correspondence is being
faxed to the U. S. Patent and Trademark Office
ATTN: Examiner Amina S. Khan at
571.273.8300 on the date indicated below.

Name : Eileen T. Mathews

Signature: 

Date : March 6, 2008

DECLARATION OF TREMITCHELL WRIGHT
UNDER 37 C.F.R. §1.132

VIA FACSIMILE 571.273.8300
Mail Stop AF AMENDMENT
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

I, Tremitchell Wright, declare and say as follows:

- (1) I am a U.S. citizen and reside at 52667 Springmill Drive, Elkhart, Indiana, 46514.
- (2) I have received the following degrees: a Bachelor of Science Degree in Chemical Engineering from Tuskegee University, Tuskegee, AL in 1983; and a Master of Science Degree in Chemical Engineering from the University of New Mexico in Albuquerque, NM in 1985.
- (3) I have been working in the field of chemical research for at least 20 years.
- (4) I have been working in research in the field of non-aqueous laundering of fabrics for

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at least 12 years at Whirlpool Corporation.

(5) I am one of the inventors for pending U.S. Patent Application No. 10/699,308. The patent application discloses various embodiments of cleaning fabric in an automatic laundering apparatus, and specifically utilizing at least one non-aqueous fluids in the wash liquor. The written description describes in several embodiments that a non-aqueous fluid contacts structural components of the automatic laundering unit, where the various components which contact the non-aqueous fluid can include at least one of a conductive polymer, a static dissipating composition, a static charge dissipating coating and/or a static charge dissipating shield.

(6) Exhibit A describes an example of static development generated by the movement of both synthetic and natural fabrics at atmospheric conditions. In typical home laundering machines which clean primarily with water-based fluids, humidity is often high (greater than 50%) and there is little if any generation of electrical charge. However in wash methods which use a substantial amount of non-aqueous fluid in the wash liquor and relatively low concentrations of water, the movement of fabric can produce high electrical potential (e.g. greater than 2,650 volts) if the components of the laundering apparatus which come into contact with the non-aqueous fluid do not dissipate static charge.

(7) Exhibit B is a definition of static dissipative materials as known at least by those of ordinary skill in the art in the laundering industry. Specifically, the static dissipative materials have an electrical resistance between insulative and conductive materials 1×10^5 to 1×10^{12} ohms/sq (surface resistivity) and 1×10^4 to 1×10^{11} ohm-cm (volume resistivity). Thus, one of ordinary skill in the art of the laundering industry would know that a conductive polymer, a static dissipating material composition, a static charge dissipating coating, and a static dissipating shield would have resistivities which fall within these ranges.

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(8) I, Tremitchell Wright, declare further that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful, false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Dated: 3/6/08

Tremitchell Wright

EXHIBIT A**STATIC DEVELOPMENT IN CLOTHING**

Fabric movement does generate electrical charges; however, in normally encountered atmospheric conditions where humidity is above 50%, these charges relax as quickly as they are generated. Studies indicate fabrics including "nylon/wool, and nylon/cotton can produce electrical potential greater than 2,650 volts, enough to ignite sensitive materials" at 35% relative humidity. When humidity was below 20% "dangerous voltages were produced on the body, even with cotton."²⁰ This information indicates that gasoline vapors can be ignited by discharge of this energy.

²⁰ Hammer, Willie, Occupational Safety Management and Engineering, p. 367 (1989)

EXHIBIT B

Static Dissipative Materials

Static dissipative materials have an electrical resistance between insulative and conductive materials ($1 \times 10^5 - 1 \times 10^{12}$ ohms/sq (surface resistivity) and $1 \times 10^4 - 1 \times 10^{11}$ ohm-cm (volume resistivity)). There can be electron flow across or through the dissipative material, but it is controlled by the surface resistance or volume resistance of the material.

As with the other two types of materials, charge can be generated triboelectrically on a static dissipative material. However, like the conductive material, the static dissipative material will allow the transfer of charge to ground or other conductive objects. The transfer of charge from a static dissipative material will generally take longer than from a conductive material of equivalent size. Charge transfers from static dissipative materials are significantly faster than from insulators, and slower than from conductors.

- Fundamentals of ESD by the Electrostatic Discharge Association